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ABSTRACT

This curriculum guide for preschool teachers was designed for use with wooden unit and hollow blocks to foster a variety of math, science, language, and social skills. Following an introduction to the curriculum and a discussion of cooperative learning and stages of block building, the guide is divided into three parts. Part 1 of the guide, "Unit Block Curriculum," contains 12 activities using unit blocks. This part also presents the block assortment needed to complete all the activities. Part 2, "Hollow Blocks," contains 21 activities using hollow blocks and other materials. Part 3, "Unit and Hollow Blocks," contains 16 activities combining unit and hollow blocks and other materials. For each activity, information is provided on the specific blocks and other materials needed, the objective of the activity, steps to implement the activity, areas of the preschool curriculum addressed in the activity or the skills developed, and for some activities, suggestions for enrichment. (KB)

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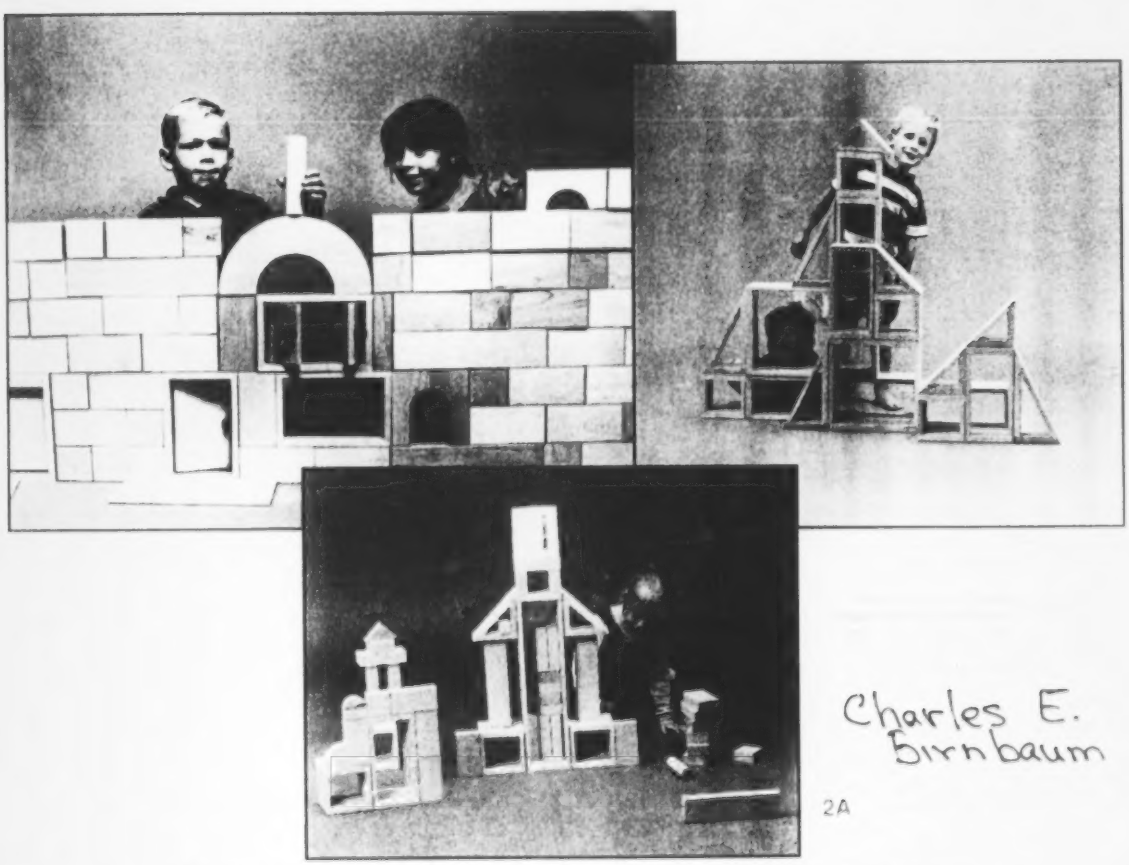
Block Curricula

A Guide to Teaching With Unit Blocks and Hollow Blocks in the Classroom



Charles E. Birnbaum

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Written by Phyllis Clark & Nancy Tiedemann

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Introduction

There they are, sitting over in the corner, one of the best toys in your classroom, Unit and Hollow Blocks. When you put a group of children together with a box of blocks, you have the makings of a fun filled play session. Did you also know that blocks are a superb teaching tool? They can be used for teaching everything from math and science to language and social skills. Just add a little creativity and you can come up with activities using Unit and Hollow Blocks that are not only fun, but are also educational. A good set of hardwood blocks will last for many years. T.C. Timber blocks are skillfully crafted in the USA from high quality hardwood maple, have no moving parts, have consistent size relationships to one another, and are guaranteed for life.

We know that blocks are a great teaching tool, but we wanted to give teachers some guidance in using the blocks in an educational setting. We at T.C. Timber are experts on toys, especially high quality wooden toys. When we decided to produce this book to accompany our Unit and Hollow Blocks, we wanted it written by professionals in the teaching field. This guide is written for teachers by teachers. Phyllis Clark and Nancy Tiedemann have well over 50 years of early childhood teaching experience between them and both have reputations for using creativity in their teaching. They wrote the activities in this book as a curriculum, but keep in mind these activities can also be the catalyst for you to come up with other ideas for using blocks. At times you may use some of the activities exactly as they are written, you may alter them to fit your educational needs, or you may add you own creative touch. The focus of the activities should be on the children. Other than that, your only limitation is your imagination. The activities are organized in an easy to follow format to make your planning easier.

Phyllis and Nancy used our Unit Block Set V (T.C.Timber product number 50-6675, 104 pieces in 23 shapes) and Hollow Block Set III (T.C. Timber product number 50-6679, 20 pieces) because these two sets combine to give a variety of interesting building experiences. Other sets can be used with this book but you may need to adapt the curriculum to accommodate the set you are using.

We consider this curriculum project to be on-going, and therefore plan to offer further activity-based curriculum for other T.C. Timber block sets. After all, we believe that this is a tool for teaching our children now and in the future.

Co-operative Learning

Socialization Skills

Developing co-operation benefits the learning process. Block building begins with solitary play, such as one child simply holding a block or putting two blocks together and progresses to the co-operative experience. During this process, growth occurs through social interaction.

One aspect of co-operative learning is apparent when the child is able to accept another child's suggestion without objection. Other indications that this co-operative learning is taking place will be evident when the child is able to:

1. Respect another child's individuality and methods of building. Some may use a structured method, where blocks fit together evenly, while others may build haphazardly and feel perfectly happy with this method. The teacher's role is to point out the differences and encourage respect for these differences in a positive manner.

2. Take turns willingly in block selection. The concept of taking turns is a basic element of co-operative play. The teacher may need to re-enforce this concept should conflict arise.

3. Verbalize to someone else their thoughts concerning the building blocks and what they represent. The teacher may encourage verbalization by posing pertinent questions in a non-judgmental way.

4. Share blocks as well as ideas. Again, sharing is a basic element of co-operative learning and when the importance of sharing is stressed, co-operation takes place and growth occurs.

Learning to use these skills helps to develop a sense of one's own self-esteem as well as confidence in group play.

Stages of Block Building

Research has shown that children between the ages of two and six progress through seven specific stages of block building. Harriet Johnson, in her book *The Art of Block Building* describes the following stages typical of this age span:

Stage 1 - The young child merely carries the block around with him.

Stage 2 - The child builds with repetition, either in rows or by stacking.

Stage 3 - The child now constructs a bridge - two blocks, connected by a third.

Stage 4 - Next, enclosures are constructed around a central space.

Stage 5 - Building decorative and sometimes symmetrical designs or patterns occurs at this point.

Stage 6 - In dramatic play, children in this stage will name their structure.

Stage 7 - Children may reproduce structures they actually know and use them for dramatic play.

Practical Suggestions

Rules for Safe Block Play

1. No throwing of blocks
2. No hitting with a block
3. No walking on blocks
4. No knocking down others' structures

Space Consideration

It is essential to creative block play that the teacher provide ample space in the classroom to give the child room to build expansively and without interference.

Block Storage

Cut-outs of block configurations may be placed on the shelves to indicate to the children where each type of block belongs. This will facilitate organized clean-up time as well as provide a learning experience in classification.

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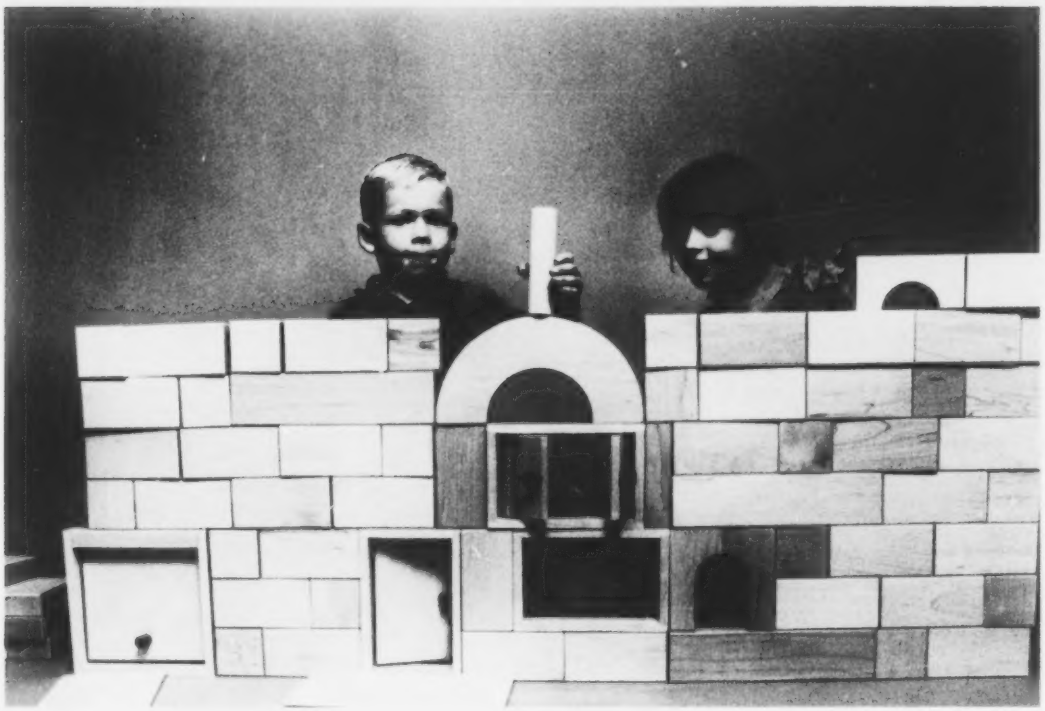
UNIT BLOCKS



Unit Blocks have been the standard for block building in day-care centers, nursery schools and kindergartens for many years. Because of their dimensions (the length is twice the width and the width is twice the thickness), they are an excellent implement for teaching in a variety of curriculum areas. Learning is combined with fun as the children participate in these Unit Block activities.

Block Assortment for T.C.Timber Unit Block Set V (50-6675)

	43032A	Half Unit Block	14
	43033A	Unit Block	24
	43034A	Double Unit Block	6
	43035A	Quadruple Unit Block	2
	43036A	Half Pillar Block	6
	43037A	Pillar Block	10
	43038A	Double Pillar Block	2
	43039A	Small Triangular Prism	6
	43040A	Medium Triangular Prism	8
	43043A	Small Cylinder	6
	43044A	Ramp Block	4
◂	43059A	Ellipse Block	1
	43045A	Curve Block	1
	43046A	1/4 Circular Prism	2
	43048A	Gothic Door	1
◂	43058A	Small Switch	1
	43049A	Large Buttress	1
	43050A	Half Arch	1
	43051A	Small Buttress	1
	43052A	Arch Block	2
	43053A	Half Circle	2
	43056A	Roof Board	2
	43057A	Floorboard	1
			104

This is the assortment that is necessary to complete all of the excercises in this section.

Community Connections

Blocks Needed:

T.C. Timber Unit Block Set V

Objective:

The child will be able to identify community helpers and construct a facsimile of a community street including buildings which represent community workplaces such as: fireman - firehouse and mailman - post office.

Activity:

1. Using any combination of unit blocks, have children construct a street. Ask the children to name some community helpers who might work on this street. For example - if the child names a policeman, ask the child to build a police station for him to work in.
2. Naming other community helpers, continue to either build or use blocks which represent the workplaces of these helpers. Evoke responses to name other helpers such as: nurse - hospital; librarian - library; and pilot - airport.
3. Encourage the children to use dolls or other figures already in the classroom to represent the community helpers.

Curriculum:

Social Studies -
People and their work
Community Awareness
Creativity
Role Playing
Co-operative Play

Enrichment:

1. When this activity is completed, the teacher may ask several children to take on the role of these community helpers dramatizing their work and/or contribution to community life.
2. Another role playing activity might be to have one child play the part of a community helper and the other children guess which helper is being represented.

Make-A-Map

Blocks Needed:

2 Quadruple Units	2 Arches
6 Double Units	1 Gothic Door
1 Small Switch	4 Ramps
6 Half Units	1 Floorboard
6 Small Triangles	(extra unit blocks if needed)

Objective:

The child will be able to construct several connecting streets with houses and other buildings and then follow directions traveling from one building to another, as if reading a map.

Activity:

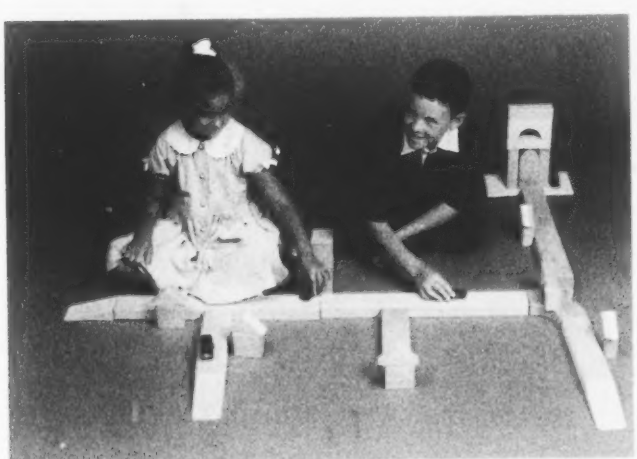
1. Using the above blocks, suggest that the children construct several connecting streets. Use the six half units and six small triangles to construct houses on the streets. A removable label with the name of a child in the class will be attached to each house. Build a school at the end of one of the streets and then add any other blocks to represent other buildings.
2. Using matchbox cars or small figures, direct the child to go from his house to the school or from his house to a friend's house or another designated building.
3. Increase the level of difficulty by asking the child to make two or more stops on his way to school, such as: "travel from your house to Peter's house, then you and Peter find your way to Amy's house, then all of you go to school."
4. Continue giving a series of similar directions keeping in mind that the objective of the game is to help the child visualize a map.

Curriculum:

Social Studies -
Map Reading
Co-operative Play
Following Directions
Left - Right Directions

Enrichment:

1. As the child travels on the streets, expose him to the concept of left - right directions. If the child is knowledgeable in this area, ask him to verbalize which direction he is turning.
2. Encourage the children to continue playing, using their own imagination as they give directions to each other.



Balance and Stability

Blocks Needed:

Balance -
- 1 Small Switch
- 1 Quadruple Unit
- 2 Small Cylinders
- any small blocks or objects
- 1 Arch
- 1 Roof board

Stability
- any combination of blocks in Unit Block Set V

Objectives:

1. The child will be able to perceive the concept of balance through experimentation.
2. The child will also recognize the need for basic stability as it relates to balance.

Activity I:

1. Using the small switch and quadruple unit and the arch and roof board, the teacher will set up two balance beams.
2. Using small blocks or other objects, ask the children to predict what will happen if they place objects on either end of the balance beam. The objective is to discover the number or size of the objects needed to achieve balance.
3. The teacher's role in helping the child toward discovery might take the following line of discussion:
   a. Reinforce the concept of balance by focusing the child's attention and commenting on what he has accomplished.
   b. Next, question the child as to another way he might achieve balance using a variety of objects.
   c. Ask the child to verbalize how he solved the problem of balance.

Activity II:

1. Teacher will demonstrate to the class the theory of stability by constructing three towers - one starting with a small block, another starting with a large block and the third with the blocks out of alignment.
2. Question the children as to which one will probably topple over first and which one would probably be the tallest and most stable.
3. Allow the children ample opportunity to then use any blocks they wish to construct towers or bridges to discover which blocks make the best base and if alignment makes a difference in the stability of the tower or bridge.

Curriculum:

Science -
- Balance
- Predicting
- Trial and Error
- Stability
- Probability

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Zippity-Zoo-Dah

Blocks Needed:

2 Quadruple Unit Blocks	1 Medium Triangle
2 Double Unit Blocks	2 Half Pillars
20 Unit Blocks	3 Small Cylinders
10 Pillars	1 Half Circle
1 Small Buttress	1 Quarter Circle
1 Half Arch	1 Arch

Animals and 9" x 12" Construction Paper Needed:

Gorilla - Green	Goat - Gray
Elephant - Green	Snake - Brown
Eagle - Brown	Seal - Blue

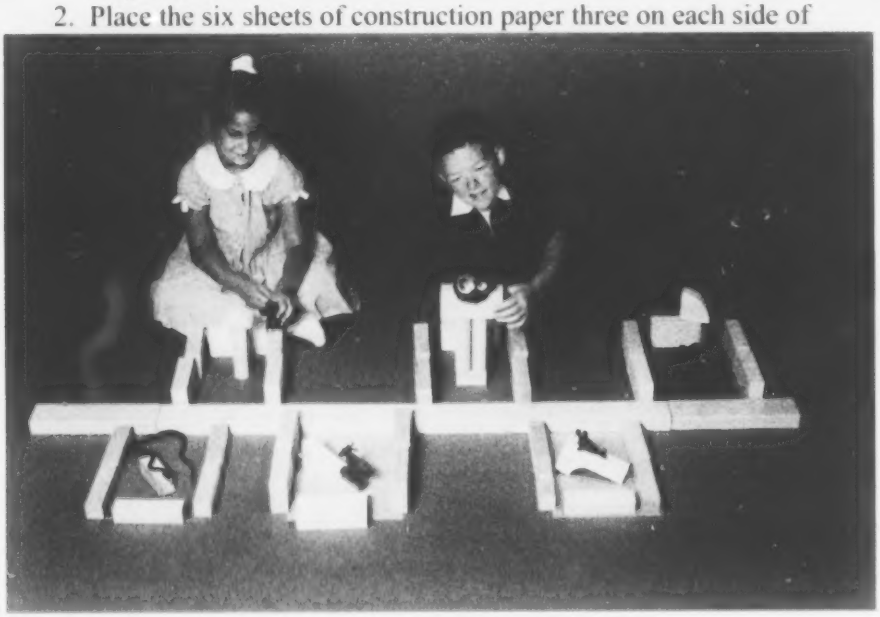
(other animals may be substituted as long as they apply to that habitat)

Objective:

The child will be able to construct an outline of a zoo structure and identify the kind of habitat six different animals would need in their natural environment.

Activity:

1. Place the quadruple and double units in a line to form the center path.
2. Place the six sheets of construction paper three on each side of



the path and perpendicular to the path.

3. Using five unit blocks on each paper, form the enclosure for gorilla, elephant, eagle and goat. Using five pillars each, construct an enclosure for the seal and snake.

4. Use the rest of the blocks as follows:
   Gorilla - "tree" - cylinder and half circle
   Elephant - "tree"- half pillar and quarter circle
   Eagle - "nesting site" - 1 half pillar (horizontally), two small cylinders and one arch (turned upside down)
   Goat - "mountain" - medium triangle
   Seal - "rocky island" - half arch
   Snake - "rock" - small buttress

5. Discuss with the children the necessity for providing a zoo habitat that conforms to a specific animal's natural environment. Ask the child to place each animal in the proper zoo enclosure. A conversation could follow concerning the basic needs each type of animal has and how they would be provided in this habitat. For example: the seal needs water in which to find food and to swim and a rocky place to rest.

Curriculum:

Science -

Animal Needs
Animal Habitat
Appreciation for Natural Environment

Several Shapes

Blocks Needed:

Activity I	**Activity II**
6 Small Triangles	24 Unit Blocks
6 Pillars	10 Pillars
6 Half Unit Blocks	
6 Small Cylinders	

Objective:

The child will be able to identify triangle, rectangle, square, and circle by naming the shape and the number of sides of each.

Activity I:

1. The teacher will name a shape and trace it in the air with large arm movements. Ask the children to follow using their arms, repeating the name of the shape and counting the number of sides.
2. After distributing the above blocks ask each child in turn to trace in the air the shape he is holding. The other children will guess which shape he has. Confirm the answer by holding the block in the air.

Activity II:

1. Divide the children into three groups and supply two groups with 12 unit blocks each and one group with 10 pillars.
2. With the children working together as a group, challenge them to form a triangle using all their blocks. The children should be able to name the shape and count the number of sides.
3. Continue the activity by having the children form a rectangle, square and circle in the same manner - naming the shape and counting the sides.

Curriculum:

Math -

Shapes
Counting
Spatial Perception
Missing Factor

Co-operative Learning

Enrichment:

1. Place on the table:

2 Small Triangles	1 Half Pillar	1 Large Triangle
2 Half Unit Blocks	2 Pillars	1 Cylinder

2. Ask the child to observe carefully the number and shape of the blocks on the table.
3. Cover these blocks with a cloth and ask the child to close his eyes.
4. Remove the cloth and at the same time remove one of the blocks.
5. The child will then observe the remaining blocks and try to identify the missing shape.
6. Children may continue playing the game in pairs.

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Mighty Measuring

Blocks Needed:

24 Unit Blocks
10 Pillars
6 Small Cylinders

Objective:

The child will be able to measure, using a specific unit of length, and compare that measurement with the length of other objects in the classroom.

Activity I:

1. Let each child choose one of the above blocks. Using this block as a measuring tool, ask the child to compare its length with the length of other objects in the classroom. The teacher may model the activity by saying, "My block is shorter than the plant," or, " My block is longer than the marker."
2. Next, have each child line up two or three blocks in a row and using a piece of string, measure the row of blocks. The teacher will cut the string the same length as the row and give the string to the child. Using the string as another measuring tool, ask the child to measure larger objects in the room. Continue to use comparison words such as shorter and longer.
3. Working in pairs and using the string, have the children measure each other's height, waist, arm, leg, head, etc. The children may discover, "My arm is shorter than the string." or, "My leg is longer than the string."

Activity II:

1. Ask the child to estimate the number of unit blocks it would take to measure the distance between, for example, the desk and the table.
2. Have the child lay the unit blocks between the two objects, counting them as he does so. Compare the estimation with the actuality.
3. The children should be encouraged to continue on their own to use any blocks to estimate and discover the length of objects of their choice in the classroom.

Curriculum:

Math -

Measuring
Estimation
Comparison
Counting
Discovery

Co-operative Learning

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Great Graphing

Blocks Needed:
24 Unit Blocks

Other Materials Needed:
A variety of stuffed animals

Objective:
The child will be able to understand the concept of graphing by using blocks to represent the number of items on a graph.

Activity I:

1. Seat the children in a circle with the pile of unit blocks nearby.
2. Discuss the fact that our pets are important to us and wouldn't it be interesting to find out how many pets the children in the class have.
3. Place stuffed animals across the middle of the circle - one to represent each pet, such as: dog, cat, fish, bird, rabbit, etc.
4. Starting around the circle ask each child in turn to name the kind of pet he has. As each pet is named, the teacher will place a unit block in a row vertically from the stuffed animal of the same kind. If a child has two pets a block will be used for each.
5. When the graphing is complete, have the children count with the teacher the number of dogs, cats, etc. and state "We have ____ dogs altogether, ____ cats altogether", etc.

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Activity II:

1. Dismantle the graph and distribute the unit blocks to the children giving each child the number of blocks corresponding to the number of pets he has.
2. Starting around the circle again ask each child to place his block(s) in the proper line above the represented animal. The child may say the pet's given name as he places the block in the line.
3. Count the blocks again to reinforce the total number of pets in each group.

Activity III

1. Other graphs may be constructed using different themes, such as: number of family members, favorite flavors of ice cream, eye color, color of clothing they are wearing - red, green, blue, pink or white.

Curriculum:

Math -

Graphing
Counting
Classification

Taking Turns

17

Simple Symmetry

Blocks Needed:

10 Pillars
6 Small Triangles
8 Medium Triangles
4 Ramps
2 Quarter Circles
2 Half Circles
2 Arches

Objective:

The child will be able to identify the concept of symmetry and construct a symmetrical block design with a partner.

Activity:

1. The teacher will lead a discussion on the concept of symmetry using the perfect example - the human body. Show the symmetry of the body by pointing out two eyes, one on each side; two ears, one on each side; two arms, one on each side, etc.
2. To further demonstrate the concept, the teacher may construct a symmetrical design so the children can observe two exact halves equal a whole.
3. Put all the above blocks in a pile and ask two children to sort the blocks according to shape. Next, they need to divide the blocks so that each child has the same number of each shape in front of him.
4. Keeping in mind that the children will build one symmetrical design together, ask the first child to place a block of his choice in front of them; the second child will then place a block of the same shape so that his block touches the first child's block. Continuing to take turns in this manner, the two children should complete a symmetrical design.
5. Reverse the order of taking turns so that each child will have the opportunity to create the design.
6. After each stage of construction have the children observe the two halves to be certain the design is symmetrical.

Curriculum:

Math -

Symmetry
Sorting
Classification
Patterning
Spatial Relations

Co-operative Learning

Enrichment:

Allowing the children to use any blocks from T.C. Timber Unit Block Set V, encourage them to build structures or designs which are symmetrical by nature, for example - a house with equal number of windows on each side of the door; or a tree with a symmetrical branch design.

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Easy Equivalence

Blocks Needed:

Activity I	Activity II
1 Unit Block	1 Quadruple Unit Block
2 Half Unit Blocks	2 Double Unit Blocks
2 Pillars	4 Unit Blocks
2 Triangles	8 Half Unit Blocks
4 Half Pillars	1 Double Pillar
	2 Pillars
4 Small Triangles	4 Half Pillars

Objective:

The child will be able to understand the concept of fractions by discovering how many equal parts make one whole.

Activity I:

1. The teacher will demonstrate the concept of equivalence by using a unit block as a base which represents a whole. Then, using the blocks listed above for Activity I, place two half units together on the base to show that these half units are equivalent to one whole unit block. Continue stacking the other sets of blocks noting that all sets are equivalent to each other and to the base.
2. Point out to the children that by looking at the configuration of stacked blocks from different angles, they will see interesting patterns.
3. Dismantle the structure, leaving the base in place. Distribute the blocks to several children and have them discover how they fit back together as equivalent parts equal to the whole.
4. Give each child a unit block and allow him to choose and stack any sets of blocks that equal his whole unit block.

In the top row in the figure on the left, we see from left to right: a Unit Block, a Half Unit Block, a Pillar, a Medium Triangular Prism, a Half Pillar and a Small Triangular Prism. The row on the bottom shows how each of these relates to the Unit Block

Activity II:

1. To further demonstrate the concept of equivalence, the teacher may use the blocks listed above for Activity II with the quadruple block as the base.
2. Ask the children to count the blocks as they are stacked - for example: 2 double unit blocks are equivalent to one whole quadruple unit; 4 unit blocks are the same as one whole quadruple unit; 8 half units equal one whole quadruple unit.
3. One double pillar, 2 pillars and 4 half pillars can also be used as examples of the same concept.
4. Again, the children should have the freedom to choose any combination of blocks that show how equivalent parts equal the whole.

This figure shows how the Quad Block on the left is equal to two Double Unit Blocks, four Unit Blocks and eight Half Unit Blocks (from left to right).

Curriculum:

Math -

Fractions
Equivalence
Counting
Spatial Relations

Dramatic Play

Blocks Needed:

T.C. Timber Unit Block Set V

Dramatic play progresses in several stages:

1. The child is one with the block - as he pushes a block across the floor using sound effects.
2. Next, the child pays more attention to building a structure and puts himself into the action as he plays.
3. He then includes more detail in the structure and invites a friend to join the play.
4. In the last stage, he is able to transfer the drama to the symbolized self in the form of a doll or plastic/ wooden figure.

The teacher plays an important role in dramatic play by:

1. Providing space, blocks and supplementary materials
2. Creating a social atmosphere
3. Acting as guide and facilitator
4. Emphasizing respect for individuality

A discussion between teacher and children should include these elements of dramatic play:

1. "Where is your play taking place?"
2. "Who are the people in your play?"
3. "What is going to happen in your play?"

Block construction creates a background for dramatic play with the following suggestions as possible themes:

1. House
2. Farm
3. Circus
4. Amusement Park

Presentation of a drama may follow the playing period of time and may occur in front of the class or merely a few individuals. The block structure is a representation of the child's ideas and feelings, the drama is the activity between the child and the structure.

Curriculum:

Language Arts -

Role Playing
Creativity
Oral Language
Elements of Drama

Co-operative Play

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Story Telling

Blocks Needed:

T.C. Timber Unit Block Set V

Suggested Books for use in this activity:

Runaway Bunny by Margaret Wise Brown

A Pocket for Corduroy by Don Freeman

The Cock, the Mouse and the Little Red Hen retold by Lorinda Bryan Cauley

Activity:

1. The teacher will read a story to the class and at an appropriate point in the story, stop reading and ask the children to predict what they think will happen at the end of the story.
2. At this point when the reading has stopped, ask the children to choose and build a structure from the story, such as: the circus in *Runaway Bunny*, the laundromat in *A Pocket for Corduroy*; or the two houses in *The Cock, the Mouse and the Little Red Hen*.
3. As they are building the structure using their blocks, ask them to think about the story they have heard and create their own ending.
4. The children should then be given the opportunity to retell the story incorporating their block structure and adding their own conclusion to the story.
5. Complete the activity by returning to the original story and reading it in its entirety.
6. An extension of this activity might be to use small block structures to illustrate or create a focal point for teaching nursery rhymes, poems or songs such as:
   - The candlestick in "Jack Be Nimble"
   - The wall in "Humpty Dumpty"
   - The gate in the song "Five Little Pumpkins"

Curriculum:

Language Arts -

- Listening
- Predicting
- Story Telling
- Creativity
- Literature
- Illustration with Blocks

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Freeform Art in Architecture

Blocks Needed:

T.C. Timber Unit Block Set V

Objective:

The child will experience the creative use of blocks to build a structure of his own design.

Activity I:

1. Before the children begin to build their own creative design, the teacher might name a few architectural forms for their consideration such as: bridge, arch, wall, ramp, tunnel, enclosure and a vertical structure.

2. The child may decide to choose one of these forms and should be allowed to then build his own version.

3. When completed, the teacher will make a positive comment about the design and note which one of the above forms was used without questioning what the structure represents.

Activity II:

1. Distribute an assortment of 20 blocks to several children.

2. Ask them to build a structure using only their own 20 blocks.

3. Upon completion, the teacher may initiate a discussion with the children by comparing the designs as to configuration, size and use of above mentioned forms. Include in the discussion the necessity for respect for each other's creativity.

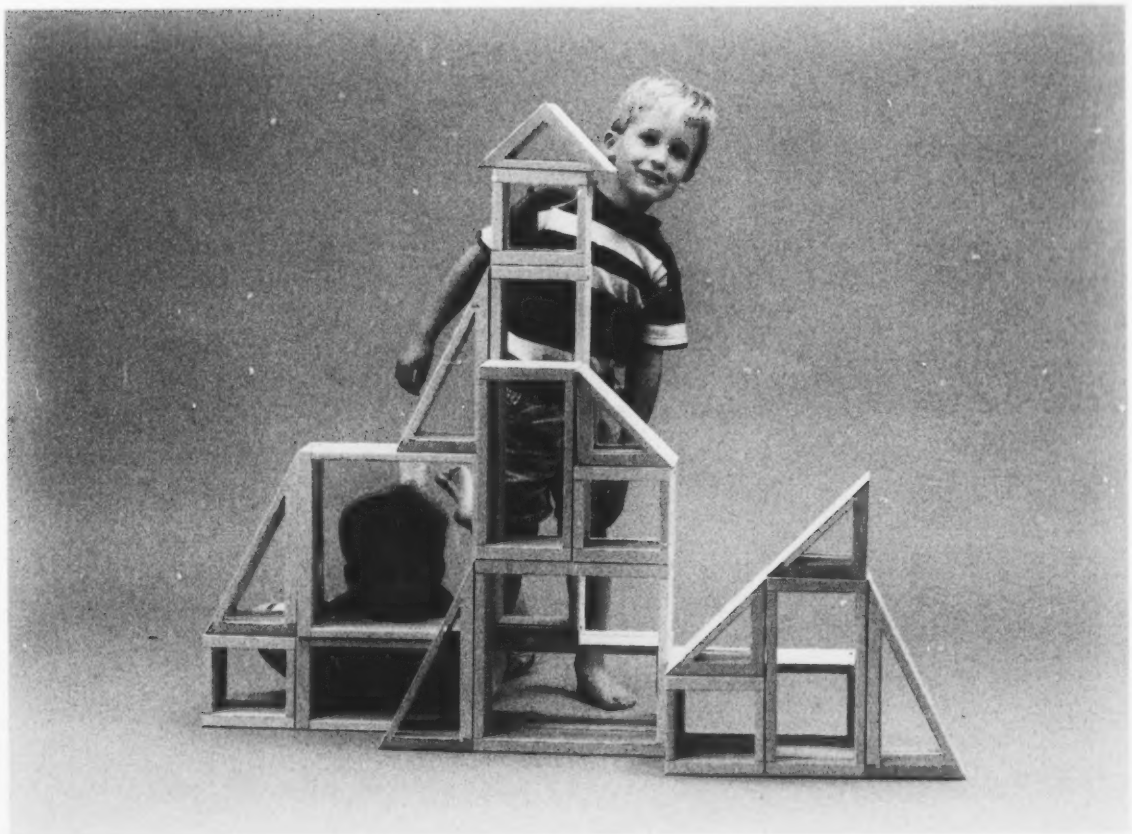
Curriculum:

Art -

Creativity
Architectural Forms
Design

Independent Work Skills

HOLLOW BLOCKS



Hollow Blocks The activities in this section are created to be used with the recently introduced Hollow Block Set III (T.C.Timber product number 50-6679 20 pieces). These large and unique blocks are especially designed for young children. They provide an opportunity for large motor skill development and are scaled to use with standard Unit Blocks. These king-sized blocks, with an open space within, provide a new perspective in block building. Children will enjoy creative and imaginative play using these blocks in the following activities.

Size and Shape Comparisons

Objective

The child will be able to recognize three shapes and identify the concept of opposites using size and shape.

Activity I

1. Sort the hollow blocks according to shape– square, rectangle and triangle.
2. Arrange them by pairing a large and small square, a large and small rectangle and a large and small triangle, each time naming the shape and the size– "large" or "small".
3. Place one large square on top of another vertically and do the same with the large rectangles. Now place a small square next to the squares and a small rectangle next to the rectangles. Observe, touch and say: "tall square", "short square", then "tall rectangle", "short rectangle".
4. Using the rectangles as they are, place a small triangle on top of the tall ones and say "high". Now move the triangle to the small rectangle and say "low".
5. Find other combinations of blocks that show large and small, short and tall, high and low.

Activity II

1. Arrange the hollow blocks in large and small combinations.
2. Find objects in the classroom that fit the large/small pattern.
3. Place the objects inside the appropriate size hollow block, ie. small teddy bear in the small square, large teddy bear in the large square.

Skills

Sorting
Pairing
Comparisons
Opposites
Shape Recognition
Size Recognition

Opposites in Travel

Objective

The child will be able to understand the concept of opposites in motion.

Needed

(in addition to the hollow blocks)— Matchbox™ cars

Activity I

1. In and Out: may be represented by constructing a "tunnel" using 4 small squares.
2. Over and Under: may be represented by constructing a "bridge" using 1 large rectangle and 2 large triangles as ramps.
3. Up and Down: may be represented by constructing a "hill" using 2 large triangles back to back.
4. Around and Through: may be represented by constructing a "garage" using 2 small rectangles and 4 small triangles as the roof.
5. Using Matchbox™ cars, make them travel up and down the hill, over and under the bridge, in and out of the tunnel and around and through the garage. Each time an opposite direction is indicated say the words "in and out", "over and under", etc.

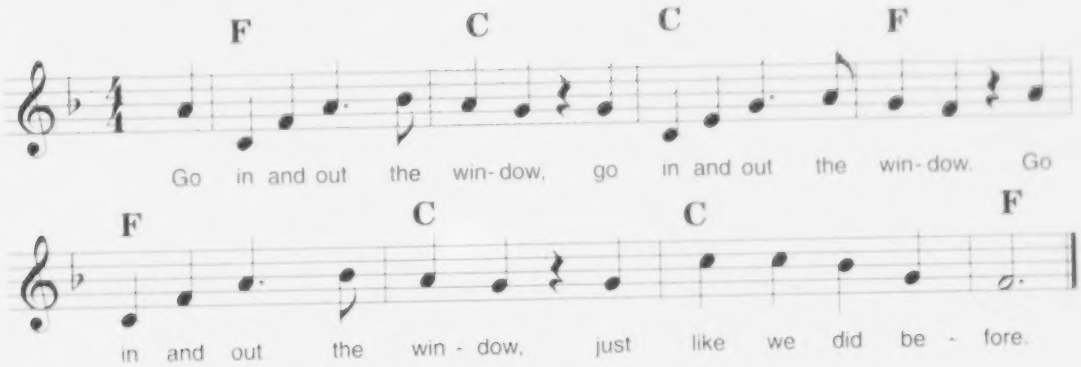
Activity II

1. Sing the song "Go In and Out the Window".
2. As you sing it again, use a car, a toy or a small stuffed animal and change the words to "Go in and out the tunnel".
3. Continue to sing the song and change the next verse to "Go over 'n under the bridge", then "Go up and down the hill" and last, "Go around and through the garage just like we did before".

Skills

Opposites
Transportation Structures
Music

Go In and Out the Window



Building Hollow Block Homes

Objective

The child will be able to build different types of homes and incorporate them with dramatic play.

Activity I

Build the following hollow block homes –

1. "Dog House" – 1 small square and 1 small triangle
2. "Bird House" – 1 small rectangle and 1 small triangle
3. "Bee Hive" – 3 small squares and 1 small triangle
4. "Barn" – 2 large squares and 2 large triangles
5. "House" – 2 small rectangles and 2 large triangles
6. "Apartment House" – 1 large rectangle, 1 small rectangle and 1 small triangle.

Activity II

1. From a basket containing toy animals and people that would live in the above homes, draw one and place it inside the appropriate home.
2. Tell a short story about how that animal or person lives in this home. i.e. Where does he sleep? What does he eat? Who are his friends?
3. Take turns drawing a toy and finding its home until the basket is empty.
4. When all the toys are "living" in their homes, create a story with the animals and people talking to each other or visiting each other's homes.

Skills

Constructing
Relating animals to type of home
Dramatic Play
Co-operative Play

Discovering Tunnels

Objective

The child will be able to recognize the concept of tunnel and the space within.

Activity I

1. Group all the hollow blocks together that are alike. i.e., small triangles, large squares, etc.
2. Arrange each group to form a tunnel (solid sides down).
3. Look through each tunnel and observe the size and shape of the space within the tunnel.
4. Find an object in the classroom that will fit in each tunnel space. If it doesn't't fit, try another tunnel.
5. If it does fit, have it take a "trip" through the tunnel.

Activity II

1. Choose a partner and one of the long tunnels.
2. Look through the tunnel at your partner. Do you see eyes? Do you see eyes and nose? Do you see eyes, nose and hair? Does he look different to you through the tunnel?
3. Use a car, truck, ball or anything that rolls and send it through the tunnel to your partner. Have fun sending it back and forth through the space in the tunnel.
4. Think of something that you could put in the car or truck, such as: a note, a picture, a snack or anything that will surprise your partner; and then send it through the tunnel to him.

Skills

Sorting
Classifying
Spatial Relations
Visual Perception
Social Interaction

Puppet Play

Objective

The child will learn to use hollow blocks to build a small puppet theater and interact verbally through puppets.

Activity I

1. Build a small puppet theater using 2 large squares, 2 small rectangles placed on the squares and 3 small triangles to represent a top for the stage.
2. Find finger or hand puppets in the classroom which you can use to dramatize a familiar nursery rhyme.
3. Choose a few rhymes that might work well, such as:

   Old Mother Hubbard
   Jack and Jill
   Humpty Dumpty
   Mary Had a Little Lamb
4. Have the puppets act out the rhyme on both levels of the theater.
5. Ask the audience to say the rhyme with you as it is acted out again.

Activity II

1. Take 2 small rectangles and give 2 small rectangles to a partner.
2. Sit at a table with your partner across from you and place 1 rectangle on top of the other with the holes lined up. Have your partner do the same.
3. Pretend your hand or finger puppet is talking to your partner's puppet. You may tell a story or talk back and forth about something that is happening in the classroom.
4. Other puppet theaters can be built from different combinations of hollow blocks.

Skills

Construction
Dramatizing
Recitation
Interactive Play
Storytelling

Shared Building

Objective

Working with a partner, the child will be able to create or replicate hollow block structures.

Activity I

1. Divide all the hollow blocks into 2 equal piles.
2. Choose 1 block from your pile to begin the structure. Ask you partner to put the same block from his pile in front of him.
3. Continue to create a block design, having your partner copy you, 1 block at a time.
4. When you finish, begin again, having your partner start a new design and ***you*** copy him.
5. Now, build a complete structure and see if your partner can copy the whole thing.

Activity II

1. Working together, you and your partner build some things that elves could:

   sit on
   climb up
   eat at
   look through

2. Put all the hollow blocks together and share the fun of creating 1 large building using ***all*** the blocks.

Skills

Construction
Replication
Spatial Relationships
Creativity
Co-operative Play

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What's Behind the Door?

Objective

The child will be able to name a hidden object through deductive questioning.

Needed

(4) 9" x 7" pieces of cardboard or tagboard
(2) 9" x 12" pieces of cardboard or tagboard to represent doors.

(T.C. Timber also makes "Unit Block Doors and Windows" numbers 50-6501, 50-6503, 50-6504 and 50-6689 and "Hollow Block Inserts" number 50-6900 which are appropriate for this exercise too)

Activity I

1. Place the cardboard "doors" in the slots of the 4 small rectangles and 2 large squares.
2. Find an interesting object and place it in one of the hollow blocks, behind the door.
3. Have your partner guess what's behind the door. He may ask questions such as:
   "Is it something to eat?"
   "Is it an animal?"
   "Does it make a noise?"
   "Is it soft? Is it hard?"
   "Is it red? blue?, etc."
4. When the object is named correctly, open the door by pulling out the piece of cardboard to show the object. Voilà!
5. Continue playing the guessing game by using all six hollow blocks with six different objects. Having guessed the hidden objects, secretly mix them up or find six more and again play "What's Behind the Door?"

Activity II

1. Create a classroom Art Show by drawing a picture on paper the same size as the cardboard in the hollow blocks.
2. You may draw one of the objects from the game or draw a picture of your own design. Insert your picture in the slot of the hollow block in front of the cardboard.
3. When all the blocks have pictures in them, line the blocks up on the table and invite the rest of the class to view the Art Show.

Skills

Deductive Thinking
Predicting
Creativity
Drawing

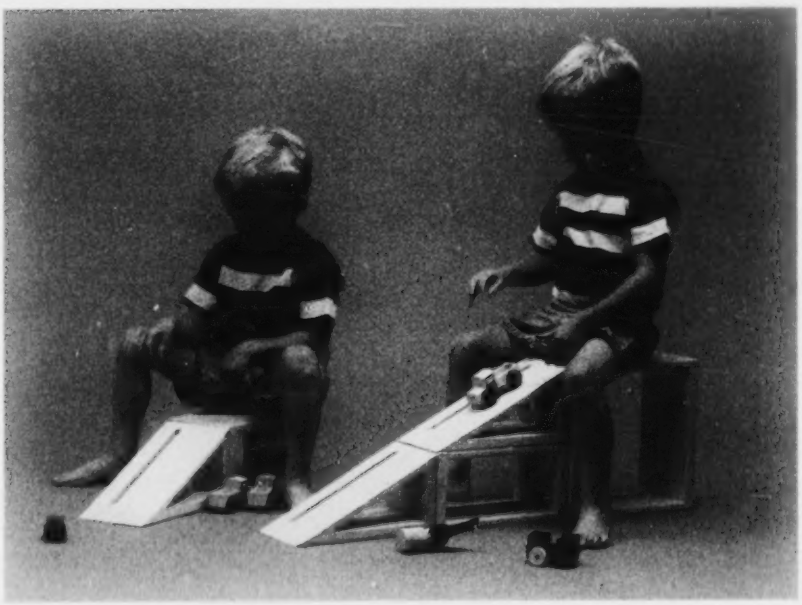
Ramp Observations

Objective

The child will observe the differences in speed and distance relative to the height and length of a ramp.

Activity I

1. Build 2 ramps –
   a) use 1 large triangle and 1 small rectangle, as a "seat" at the back.
   b) use 1 small rectangle with 2 large triangles, 1 on top and 1 in front, forming a ramp. Use a large square for a "seat" at the back.



2. Select a Matchbox™ car or any toy that rolls easily.
3. Roll your toy down the short ramp and place a marker where it stops rolling. Now do the same using the tall ramp. Which ramp made your toy roll further? Which ramp made your toy roll faster?
4. Select a different toy and try the experiment again. Does a larger toy roll further? Does a smaller toy roll faster? What did you observe?

Activity II

1. With a partner, build a short road of 1 small square with a large triangle at each end as ramps.
2. Send a Matchbox™ car up the ramp, over the road and down the other ramp to your partner. How far did the car travel?
3. Now try a small rectangle for a road and send a car up, over and down. Did you have to push the car harder? Did the car travel further?
4. Try this again using the large rectangle for the longer road. How far did the car travel this time?
5. Discuss your observations with your partner.

Skills

Observing Distance and Speed
Understanding Ramp Design
Co-Operative Learning

Looking at Our Feelings

Objective

The child will be able to recognize expressions of emotion through hollow block play.

Activity I

1. Discuss with your teacher a variety of feelings you might have in everyday life.
2. What makes you feel angry? sad? happy? excited?
3. You and your partner each take a large square hollow block and put your face in the block.
4. Make a face that expresses a feeling and tell your partner what makes you feel that way.
5. Now give your partner a chance to express a feeling. Take turns making different facial expressions and explaining your feelings.

Activity II

1. Build a hollow block miniature post office by placing 2 large rectangles, end to end, solid side facing front with a roof made of the 4 large triangles. Now place 4 small rectangles touching and in front of the large rectangles (slot side up).
2. Ask your teacher to choose 4 children to receive mail this day and label the mailboxes with the children's names.
3. The rest of the class may draw faces expressing how they feel that day and then "mail" their drawings to those 4 children.
4. Extend this activity by changing the names on the mailboxes each day and continue to mail notes or other drawings that apply to the day's activities to 4 different children.

Skills

Emotional Expression
Verbalizing Your Feelings
Personal Interaction
Artistic Expression
Recognizing Feelings of Others

Storytelling Using a Diorama

Objective

The child will verbalize a story line and order the events of the story in sequence.

Activity I

1. Using as many hollow blocks as possible, build a large house incorporating different levels, many rooms, a roofline and a garage.
2. Put people and small pieces of furniture from the classroom collection in the rooms of the house.
3. Tell a story about what may be happening in the house.
4. Make your story interesting for others to hear and also tell what happened before and what may happen next. Now your story will have a beginning, a middle and an ending.

Activity II

1. Place a large square hollow block, slot side up, on the floor or on a table.
2. Find a magazine or story picture that will fit in the slot. This will be your diorama.
3. Tell a story to a friend about what is happening in the picture. Try to imagine what has already happened and make that part of your story. Ask your friend to tell what might happen in the end.
4. Does your story have a beginning, a middle and an ending?
5. Use other hollow blocks and pictures of different sizes to tell more stories.

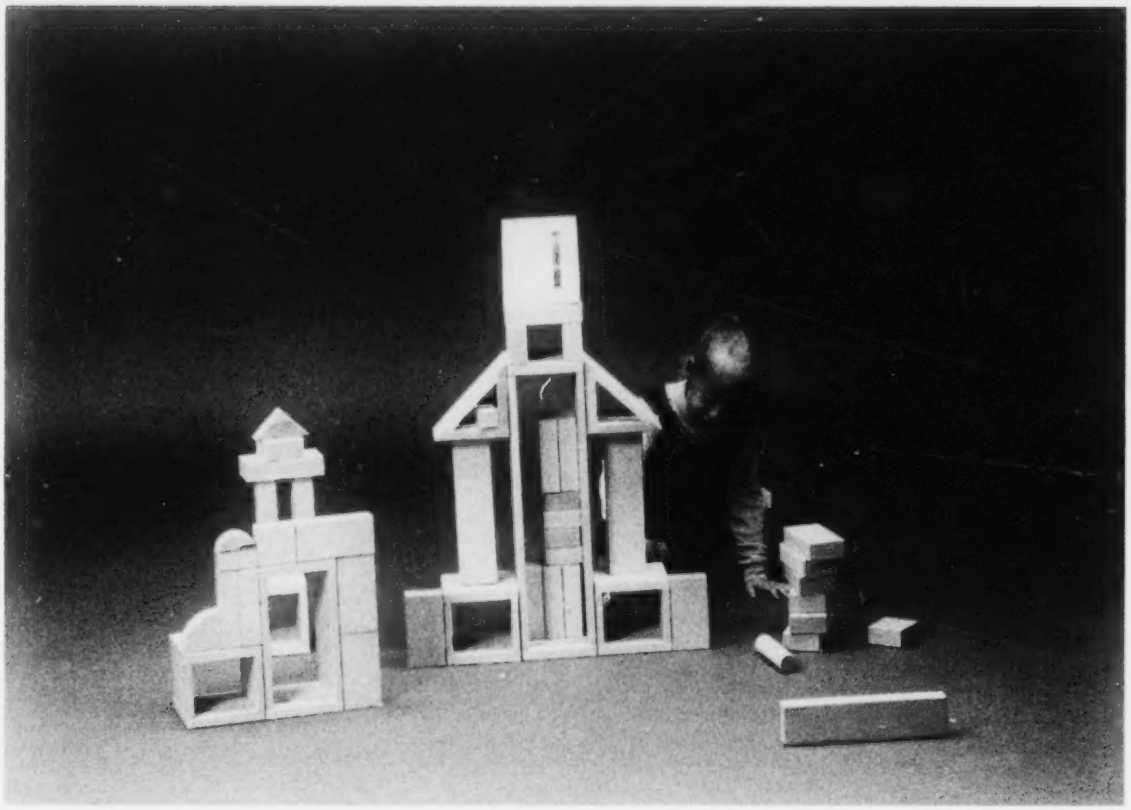
Activity III

Try to build a wonderful structure as a surprise for the rest of the class. See if you and your friend can use every single hollow block in the set. Have fun!

Skills

Story Creation
Sequencing
Verbalization
Block Building
Co-operative Play

UNIT & HOLLOW BLOCKS



Unit Blocks and Hollow Blocks are so compatible that together they can be used to produce large scale structures. Children, singly or in a group, can actually become involved in the structure as part of their imaginative play. Watch these structures grow as the children learn while playing.

Note: See page 5 for a chart showing the block assortment of the Set V Unit Blocks used in these excercises.

Forest Structure

Objective

Building a structure to help the child become aware of environmental issues involved in helping to protect our forests.

Activity I

1. Using unit blocks, build a fire look-out tower that has open spaces between the two walls of the tower. This can be constructed on a floorboard for stability. The top of the tower where the forest ranger works can be made from a small Hollow Block square and triangle. Try to build a few steps for the forest ranger to use when he starts climbing the tower.
2. Build as many trees as you can from a variety of blocks; for example: a pillar with a half circle on top, a cylinder with a quarter circle on top make interesting trees.
3. Build a small log cabin for the ranger to live in using Unit Blocks or a small Hollow Block square and triangle and place it in your forest.

Fig. 1

Activity II

1. Look at the tower and see if you can answer these questions about the forest ranger's job:
   a) What does he use when he is watching out for forest fires?
   b) If he sees a fire, what does he do then?
   c) How does his job help to protect the trees and animals in the forest?
2. Find a small toy person in the classroom to use as a forest ranger and play in your forest with a friend.

Curriculum

Social Studies
People in ecological work
Science
Environmental protection

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Structuring a Graph

Objective

To demonstrate graphing using blocks as number units within a structure.

Activity I

1. Place all the Hollow Block rectangles on the floor in a line, solid side up.
2. The teacher needs to attach twelve labels across the front of the line of Hollow Blocks; each label marked with the name of a month.
3. As the teacher calls the name of your birthday month, place a unit Block on the Hollow Block above the name of the month. Each child in the class should have a turn placing a block above his/her birthday month.

Activity II

1. Stand back and look at the birthday graph you have built.
2. Use the graph to answer these questions:
    a) In which month are there the most birthdays? Count them out loud.
    b) Are there any months that have the same number of birthdays?
    c) Are there any months with no birthdays?
    d) In which months might you go swimming on your birthday?
    e) Where you live is there a month when you might go sledding on your birthday?
3. Take the blocks down and make another graph using a different idea such as: favorite foods, favorite animals, favorite colors.

Curriculum

Math

- Graphing
- Counting
- Comparison
- Calendar awareness

A Balanced Structure

Objective

To understand the concept of balance by building and experimenting with playground equipment constructed of blocks.

Activity I

1. Build a large teeter-totter which may be made by using the small switch as a fulcrum (placed on the floorboard if stability is needed) and a quadruple unit block as the balance board.
2. Build a small teeter-totter which may be made by using the arch as a fulcrum and a roof board as the balance board.
3. Experiment with a variety of small Unit Blocks placed at each end to see which blocks and how many will balance the teeter-totters.
4. Build a balance beam which may be made by using 2 Hollow Block small squares to support a quadruple unit block as the beam.
5. This time try to balance your body by walking across the balance beam.

Activity II

1. Expand your playground by building more equipment just for fun. Here are some ideas:
   a) A large slide may be made by using 2 Hollow Block large triangles and a Hollow Block small rectangle.
   b) A small slide may be made by using 1 Hollow Block large triangle and 1 Hollow Blocks small square.
   c) An open structure may be built of 2 Hollow Block large rectangles and a variety of pillars and cylinders to separate the levels of your jungle gym.
   d) Build steps and ramps to reach your playground structures.
2. Enjoy your playground with a friend using small toys from your classroom.

Curriculum

Math
- Balance
- Stability
- Experimentation

Social Studies
- Community Park
- Socializing Skills

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City-Country Structures

Objective

To compare and contrast structures found in a city to structures typical of a country setting.

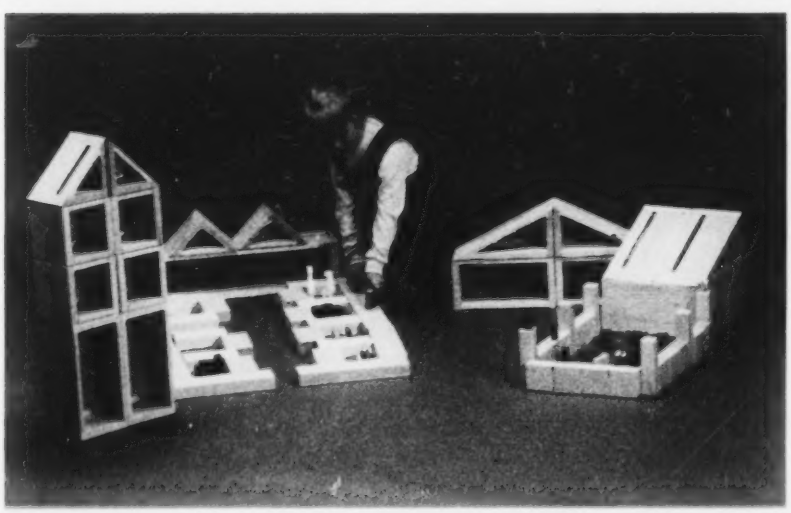
Activity I

1. Construct an apartment house starting with 2 Hollow Block small rectangles placed on end and next to each other. Four Hollow Block small squares on top will make the next two floors. Use 2 Hollow Block small triangles for the roof.
2. Next to the apartment house build a city zoo using 1 Hollow Block large rectangle and 2 Hollow Block small triangles for the roof of the entranceway. Use quadruple, double and unit blocks to form many animal enclosures.
3. In contrast, now construct a low farmhouse of 2 Hollow Block small rectangles and 2 Hollow Block large triangles. Also, an animal shed may be built of 1 Hollow Block large square (placed flat) and 2 Hollow Block large triangles to form the shed roof.
4. You might use a combination of Unit Block pillars and half units to build the large barnyard fence for the farm animals.

Activity II

1. Take a few minutes to look at your city and country structures.
2. Compare the city house and the country house:
   a) How many families do you think live in the tall city house?
   b) How many in the low country house?
   c) Which house would you like to live in?
3. Now compare the zoo and the farm:
   a) Which animals have more space to live in?
   b) Can you name some zoo animals and some farm animals?
4. Find some plastic animals in your classroom and place them in their proper enclosures. Are they zoo animals? Are they farm animals?

Curriculum



Social Studies

Comparing city and country homes

Science

Comparing zoo and farm animals

A Museum Structure for Sculptures

Objective

To display children's art, specifically sculptures, in a museum type structure.

Activity I

1. Have a classroom discussion about kinds of museums, what we look for in museums and how art is displayed in museums.
2. Now build a classroom museum. You can use all the Hollow Block squares and rectangles, stacked randomly, to make one large display structure.
3. Use the Unit Blocks to construct an enclosed courtyard attached to the museum. In the courtyard make pedestals and other structures for displaying sculptures.

Activity II

1. Create your own sculptures from clay or play dough.
2. Place the art pieces on a pedestal or shelf in the museum.
3. Take turns visiting the museum to admire the art work on display.
4. Use this museum or build a new one for other types of displays such as: pictures, animals or dinosaurs.
5. Is there a museum near your school? Now that you know about museums, wouldn't it be fun to visit a real museum?

Curriculum

Art
- Appreciation
- Creativity
- Art Display

Social Studies
- Community Museum

Structures for a Super Circus

Objective

To build a circus of blocks and apply the use of direction words to the circus acts.

Activity I

1. On the floor make a large ring of all the unit blocks to represent a circus ring.
2. Within the ring now build:
    a) A tightrope — 2 double units supporting 1 quadruple unit across the top. Use the direction words – "walk across".
    b) A diving pool — 1 Hollow Block small square and 1 Unit Block pillar and half unit for a diving platform. Use the direction words – "dive into".
    c) A flipboard — 1 double unit leaning against a half unit with a half pillar and half unit as a jump stand. Use the direction words – "jump on".
3. Create other circus structures that would apply to these direction words – "crawl through", "climb over", "swing from", "run around", "slide under".
4. Place Hollow Blocks around the outside of the ring to use as seats for children who are watching the circus.

Activity II

1. Participate in the circus acts by building for yourself:
    a) Tightrope — 2 quadruple units and 4 double units in a line to "walk on".
    b) Hurdle — 1 or 2 Hollow Block large squares to "jump over".
    c) Tiger Runway — All the Hollow Blocks, except the triangles, in two straight lines with room enough to "crawl through".
2. Pretend you are a clown and choose any 2 blocks. Create a clown trick using these 2 blocks and perform your trick for the class.

Curriculum

Language Arts
- Usage of direction words
- Following directions
- Creativity

Motor Skills

Healthy Food from the Market Structure

Objective

To practice making a healthy choice when selecting food at a pretend market.

Activity I

1. Sort into one pile all the Hollow Block squares and rectangles and into another pile all the smallest Unit Blocks.
2. Build the shelves of the market using the Hollow Blocks and nearby build a check-out counter.
3. Use the smallest Unit Blocks to represent food items and place them on the market shelves. Food peel-off stickers may be applied to the blocks if desired and play food can also be added to the shelves.
4. If play money is available, use it in this activity.

Activity II

1. Come to the market and choose some food to buy for a healthy snack. Ask yourself these questions: "Should I buy ...
   a) an orange or a candy bar?"
   b) carrot sticks or a cookie?"
   c) a cupcake or raisins?"
   d) a donut or a banana?"
2. Take your choices to the check-out counter and pay the clerk, who will put your food into a bag for you.
3. After everyone has chosen a snack, join in a circle and tell the rest of the class which healthy snack you will pretend to eat.
4. Take turns playing the clerk and continue to use the market for healthy food shopping.

Curriculum

Science
- Sorting
- Nutrition
- Decision Making

Math
- Money Exchange

Recycle, Reuse and Restructure

Objective

To make children aware of materials that can be recycled in order to help save the environment.

Activity I

1. Use or combine all the Hollow Block squares and small rectangles to form five recycling bins. Place the 2 Hollow Block large rectangles together to form the trash bin.
2. Use the Hollow Block triangles as ramps going up to the bins.
3. Make roads to the bins by using quadruple units, double units and units.
4. Find one of each of the following Unit Blocks: cylinder, small triangle, half unit, half pillar and pillar. Place one shape on the corner of each bin. Your teacher may label these corner blocks as: glass, tin, newspaper, plastic and magazines; and also label the trash bin.
5. Make a big pile of all the remaining blocks.

Activity II

1. While discussing recyclable vs. trash, choose a block from the pile, put it in your truck and deliver it to the proper recycling bin.
2. All the odd blocks that do not match the corner blocks on the recycling bins may be considered trash and dumped into the trash bin.

3. When you choose a block and match it to the bin, ask yourself, "Can this be recycled and used again?"
4. If it can be reused, how would this help to save our environment?

Curriculum

Science
- Environmental Awareness

Math
- Matching
- Shape Recognition

Show Time Structure

Objective

To use expressive language to create and act out a short presentation in a theatrical setting.

Activity I

1. Clear away a large floor area and build a solid stage using all the quadruple units, double units and units laid in two layers. Use the 8 Unit Block medium triangles to form ramps to the stage at either end.
2. Make the stage look more interesting by adding the 6 Unit Block half pillars across the front, Unit Block half rounds for stage lights or any other combination you choose.
3. Arrange the Hollow Blocks in a semi-circle in front of the stage for theater seats.

Activity II

1. Bring your favorite toy animal to school because you will be using it in a show.
2. Take turns bringing your animal up on stage. Some things you might want to tell about your animal are:
   a) What is its name?
   b) Where or when did you get it?
   c) Why is he special?
   d) If he were alive would he live on land, in the sea or in the air? What would he eat?
   e) Use one describing word that fits your animal. "I think he's _____!"
3. Ask your animal to perform a trick for the audience and then take a bow. Applause!
4. At the end of the show, line up all the animals across the front of the theater. Look at them all and decide which is the: cutest, prettiest, largest, funniest, smallest, softest, fattest, etc. The teacher may then present a sticker or ribbon to each animal according to which descriptive category applies.

Curriculum

Language Arts
- Verbal Expression
- Vocabulary Development
- Describing Words
- Comparisons
- Dramatic Play

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Structured for Kindergarten

Objective

To design a plan for a kindergarten room in anticipation of attending school in the fall.

Activity I

1. Use all the quadruple units, double units and units, placed on end, to form an outline of the four walls of a kindergarten room.
2. Inside the room in the four corners place Hollow Blocks to represent:
    a) Teacher's desk – small rectangle
    b) Bookcase – large rectangle
    c) Toy Shelves – large square
    d) Play House Corner – 2 small rectangles (fig. 1)
    e) Block Shelf – large rectangle (along the wall)
3. You may want to add the 4 Hollow Block small squares for tables, any small Unit Blocks for chairs, and the Unit Block floorboard supported by 4 half pillars for a play table.
4. Choose any small Unit Blocks to represent books, toys, kitchen items, blocks for the block shelf and piano (arch block).

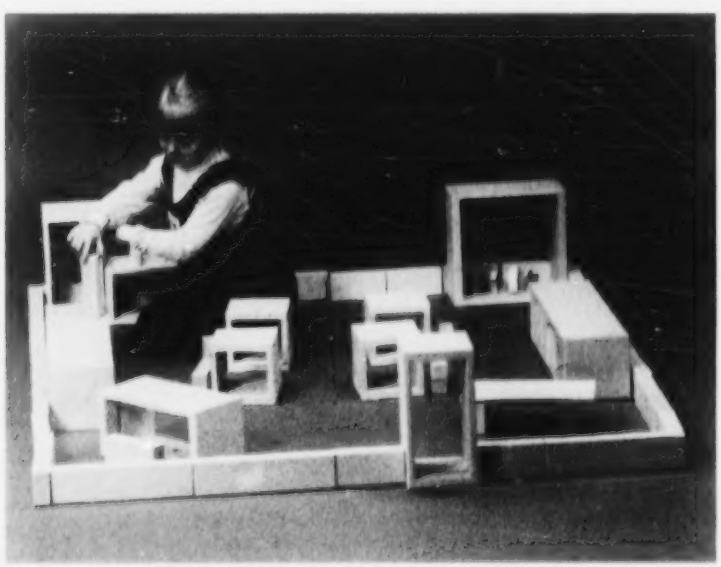
Fig. 1

Activity II

1. Talk with your teacher about going to Kindergarten in the fall and the interesting new things you will be learning.
2. Pretend you are a Kindergartner on the first day of school and playing in your new classroom.
    a) Would you like to choose a book to look at?
    b) Would you like to find a toy?
    c) Would you like to play in the kitchen area?
    d) Would you like to build with blocks?
3. Tell a story about how you will feel on the first day of school and what fun you think you will be having in your new classroom.

Curriculum

Language Arts
Storytelling
Creative Play



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Item # 10-8100 Unit Block Curriculum (Combined)